What Drought Means for a Water Company

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Responsibility and risk

- We have a legal responsibility to supply wholesome drinking water 24/7
- Weather plans are becoming more varied and less predictable
- Droughts are unique
- Key issues add to risks and uncertainty
- We have a plan for managing droughts
- We must maintain our legal responsibilities even in a drought
Our business operates in three areas in south east England

Regulated water industry in England and Wales

- VW Regulated WoC area
- Other WoC area
- Water and Sewerage Company (WaSC) area

Veolia Water Central

- Largest WoC in England and Wales by revenues
- Supplies a population of c.3.2m
- Typical daily supply - 850 Ml/d

Veolia Water East

- Supplies a population of c.160,000
- Typical daily supply - 29 Ml/d

Veolia Water Southeast

- Supplies a population of c.160,000
- Typical daily supply - 43 Ml/d
The sources of our water supply

- 60% ground water sources
  - 248 boreholes
- 40% surface water sources
  - 4 River Thames abstraction points
  - Grafham reservoir import
Drought Management Plans

- Our drought Management Plan sets out how we deal with droughts
- Our stated level of service is 1 in 10 years
- Plans are updated annually and subject to public consultation every three years
- Latest plan awaiting Defra approval
Groundwater drought triggers
Long term average rainfall and SMD

Rainfall (mm)

Soil Moisture Deficit (mm)

LTA Rainfall

LTA SMD

autumn / winter

spring / summer
Rainfall and Recharge compared to LTA

Deficit Rainfall 153mm (64%)
Deficit Recharge 47mm (76%)
Deficit Rainfall 139mm (67%)
Deficit Recharge 145mm (25%)
Drought Trigger Predictions March 2012

Groundwater Drought Triggers

Water Level (mAOD)

Average
Drought Zone 1
Drought Zone 2
Predicted Level 60%
Drought Zone 3
Drought Zone 4
Measured

Legend:
- Average
- Drought Zone 1
- Drought Zone 2
- Predicted Level 60%
- Drought Zone 3
- Drought Zone 4
- Measured
Drought Trigger Predictions May

Groundwater Drought Triggers

Water Level (mAOD)

Average

Drought Zone 1

Drought Zone 2

Drought Zone 3

Drought Zone 4

Measured

Predicted Level 100% rainfall

Predicted Level 80% rainfall

Predicted Level 60% rainfall

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Current Activities

- Following our Drought Management Plan
- Introduced Temporary Use Ban from 5 April
- Radio, press and communications with key stakeholders
- Managing over a 5% increase in calls from our customers relating to the drought
- Abstracting more surface water and importing more water from Grafham
- Driven down leakage, now 15% below Ofwat target
- Increased promotion of water efficiency
- Now producing 100ML/d less than last year and less than 70ML/d (9%) than a typical year
Demand 2012

Daily Demand Profile
Jan 2012 - 1st June 2012

- Weekends
- Hosepipe Ban Imposed
- Daily Demand
- Daily Rainfall (Bishops Rise Tipping Gauge) (mm)
- Average Daily Temp (°C)

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Demand 2012 v 2011

Daily Demand Profile
Jan 2012 - 1st May 2012

- Weekends
- Hosepipe Ban Imposed
- Daily Demand 2011
- Daily Demand 2012

mega litres per day

01 Feb  03 Feb  05 Feb  07 Feb  09 Feb  11 Feb  13 Feb  15 Feb  17 Feb  19 Feb  21 Feb  23 Feb  25 Feb  27 Feb  29 Feb  01 Mar  03 Mar  05 Mar  07 Mar  09 Mar  11 Mar  13 Mar  15 Mar  17 Mar  19 Mar  21 Mar  23 Mar  25 Mar  27 Mar  29 Mar  31 Mar  02 Apr  04 Apr  06 Apr  08 Apr  10 Apr  12 Apr  14 Apr  16 Apr  18 Apr  20 Apr  22 Apr  24 Apr  26 Apr  28 Apr  30 Apr  02 May  04 May  06 May  08 May  10 May  12 May  14 May  16 May  18 May  20 May  22 May  24 May  26 May  28 May  30 May

Hosepipe Ban Imposed
Planning for 2013 and beyond

- Focus is on a third dry winter
- Reviewing source outputs under very low water level conditions
- Looking at innovative sources of water
- Undertaking network modelling
- Future concerns with pollution of sources and sustainability reductions
Conclusions

- Droughts pose a significant impact on water companies, their customers and the environment
- We still have a legal responsibility to supply to customers
- Different water companies will have different responses which are linked to their water resource availability
- Droughts are planned for as part of routine business, but are exceptional events that vary in their level of severity
- Uncertainty in water availability is managed through a structured analysis of historic source performance and the hydrogeological environment of the source
- Planned demand restrictions are imposed on customers to ensure there is an adequate supply of water for essential purposes
Thank you

Any questions?